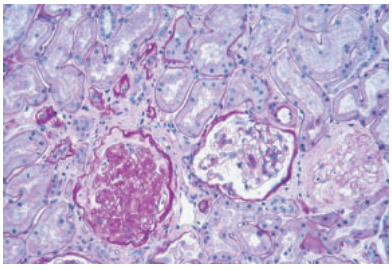
Kidney International (2006) **69,** 779. doi 10.1038/sj.ki.5000271

Toll-like receptors, MyD88, and sepsis

Toll-like receptors (TLRs), a group of membrane proteins that recognize many bacterial products, are now known to be central to the function of the innate immune system. After binding by, say, lipopolysaccharide, TLR signals produce an inflammatory response, often through activation of the NF-κB response. A critical intermediate in this signaling cascade is a protein called myeloid differentiation factor 88 (MyD88), an adaptor protein that binds to the TLR from the cytoplasmic side and mediates the activation of NF-κB. In a study reported in this issue, Dear *et al.* caused acute renal failure in mice by inducing sepsis resulting from puncture of the cecum. The animals all developed severe acute renal failure as well as some hepatic damage. Mice lacking TLR4 developed rates of sepsis and renal failure similar to those seen in the wild-type controls. But mice lacking MyD88 were protected from renal failure. However, these knockout mice had a similar degree of hepatic damage. **See page 832.**

Reversal of diabetic interstitial fibrosis by pancreatic transplantation

Tubular atrophy and interstitial fibrosis are common complications of diabetes and, like many other fibrotic complications, are not thought to be readily reversible. Fioretto *et al.* studied this problem in diabetic patients who had undergone pancreatic transplantation for type 1 diabetes and had been followed for 10 years. Using morphometric analysis, the researchers found that the volume of fraction occupied by the interstitium decreased after 10 years of normoglycemia. Similarly, the amount of interstitial collagen was reduced. Remarkably, the volume fraction of atrophic tubules was also reduced. Whether this was due to absorption of these tubules or 'redifferentiation' of these nephron segments remains to be determined. Unfortunately, arteriolar hyalinosis was not reduced. Although these results might be confounded by the fact that the dose of cyclosporin that patients were receiving decreased significantly, by more than 50%, during the 10 years of follow-up, the finding of reversal of fibrosis (whatever its proximate cause) remains very interesting. **See page 907.**



How many kinds of FSGS are there, and what are their individual prognoses?

Focal segmental glomerulosclerosis (FSGS) has many diverse pathologic presentations. In an important new study, Thomas *et al.* now provide an excellent clinical correlation between the pathologic description and the clinical outcome of patients with FSGS. They studied forms of FSGS previously grouped into several types: cellular, collapsing, tip lesion, perihilar, and not readily classifiable. Collapsing FSGS was more likely to affect younger and black patients. Black race was uncommon in the tip variant. Patients who had collapsing and tip variants had higher proteinuria and lower serum albumin than patients with the other types of FSGS. Better renal function and less severe tubulointerstitial injury at histology were observed in patients with the tip variant. These patients more often achieved complete remission and were more likely to receive steroids than the patients with other types of FSGS. After a median follow-up of 1.8 years, 23% of all patients were on dialysis, and 28% had renal failure. Collapsing FSGS had the worst renal survival compared with other FSGS variants. **See page 920.**

Stents are better than angioplasty in treating thrombosed grafts

In a study reported in this issue, Maya *et al.* queried a large vascular access database for the number of patients treated with thrombosed arteriovenous grafts wherein the thrombosis was at the venous anastomosis site. They found 14 patients treated with stent placement, who were compared with a 34-patient matched group treated by angioplasty. Despite the fact that both procedures were immediately followed by equivalent rates of success, they resulted in different rates of long-term survival. Patients who underwent stent placement lasted three times as long as those in the angioplasty group before their next interventions. Similarly, among those with permanent graft failure, patients with stents lasted longer before permanently abandoning their grafts, compared with those treated by angioplasty. The study clearly shows an improved survival rate of the graft with stent placement, but it also highlights the need for a more powerful treatment for the serious and common problem of poor vascular access in hemodialysis. **See page 934.**